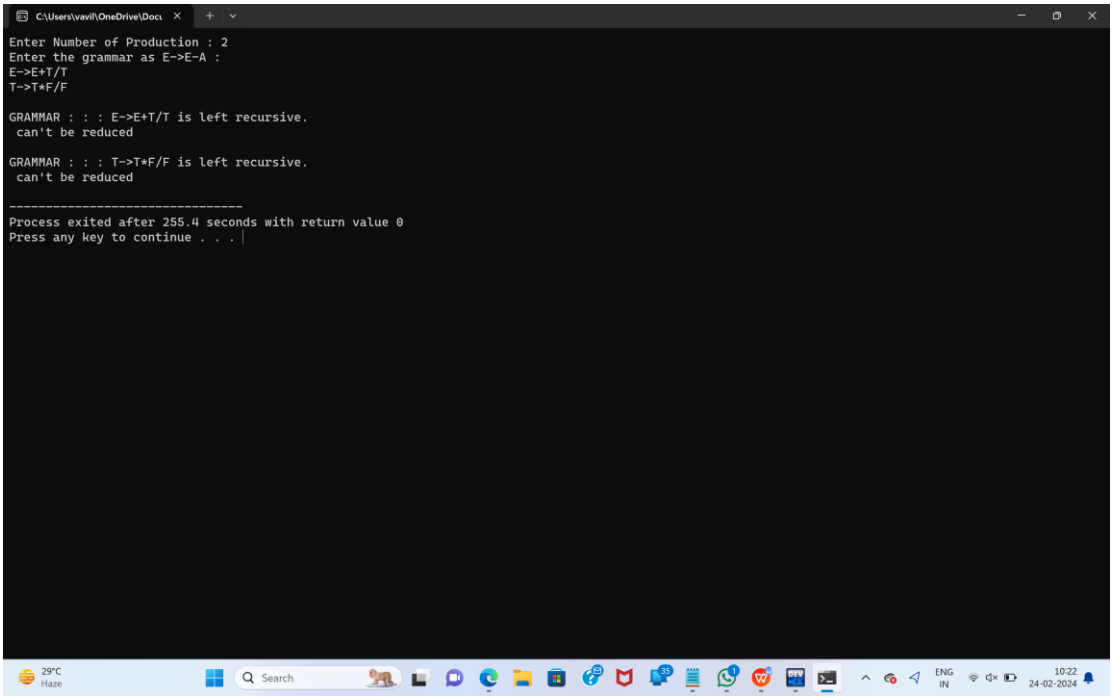
EXPERIMENT-6

6. Implement a C program to eliminate left recursion

PROGRAM:

```
#include<stdio.h>
#include<string.h>
#define SIZE 10
 int main () {
     char non_terminal;
     char beta,alpha;
     int num;
     char production[10][SIZE];
     int index=3; /* starting of the string following "->" */
     printf("Enter Number of Production : ");
     scanf("%d",&num);
     printf("Enter the grammar as E->E-A :\n");
     for(int i=0;i<num;i++){
         scanf("%s",production[i]);
     }
     for(int i=0;i<num;i++){
         printf("\nGRAMMAR : : : %s",production[i]);
         non_terminal=production[i][0];
         if(non_terminal==production[i][index]) {
             alpha=production[i][index+1];
             printf(" is left recursive.\n");
             while(production[i][index]!=0 && production[i][index]!='|')
                 index++;
             if(production[i][index]!=0) {
                 beta=production[i][index+1];
                 printf("Grammar without left recursion:\n");
                 printf("%c->%c%c\'",non_terminal,beta,non_terminal);
                 printf("\n%c\'->%c%c\'|E\n",non_terminal,alpha,non_terminal);
             }
             else
                 printf(" can't be reduced\n");
         }
         else
             printf(" is not left recursive.\n");
         index=3;
     }
 }
```

OUTPUT:


C:\Users\vavil\OneDrive\Docu
Enter Number of Production : 2
Enter the grammar as E->E-A :
E->E+T/T
T->T*F/F
GRAMMAR : : : E->E+T/T is left recursive.
can't be reduced
GRAMMAR : : : T->T*F/F is left recursive.
can't be reduced

Process exited after 255.4 seconds with return value 0
Press any key to continue . . .
29°C
Haze
Search
ENG
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10:22
24-02-2024